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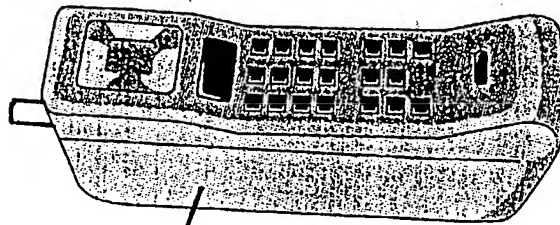
<p>(21) Application No 0113169.7</p> <p>(22) Date of Filing 30.05.2001</p> <p>(30) Priority Data</p> <table border="0"> <tr> <td>(31) 0101850</td> <td>(32) 24.01.2001</td> <td>(33) GB</td> </tr> <tr> <td>(31) 0101766</td> <td>(32) 23.01.2001</td> <td></td> </tr> <tr> <td>(31) 0105409</td> <td>(32) 05.03.2001</td> <td></td> </tr> </table> <p>(71) Applicant(s) Mobile Gaming Limited (Incorporated in the United Kingdom) 5 Station Road, Radyr, CARDIFF, CF15 8AA, United Kingdom</p> <p>(72) Inventor(s) Simon Harvey Jeremy Mayo Boswell John Alan Jones</p> <p>(74) Agent and/or Address for Service Urquhart-Dykes & Lord Three Trinity Court, 21-27 Newport Road, CARDIFF, CF24 0AA, United Kingdom</p>	(31) 0101850	(32) 24.01.2001	(33) GB	(31) 0101766	(32) 23.01.2001		(31) 0105409	(32) 05.03.2001		<p>(51) INT CL⁷ H04Q 7/22 , A63F 13/00</p> <p>(52) UK CL (Edition T) H4L LDPD A6H HLM</p> <p>(56) Documents Cited EP 1174818 A1 EP 1086732 A1 WO 2002/025603 A1 US 5999808 A</p> <p>(58) Field of Search UK CL (Edition T) H4L LDPB LDPC LDPD LDPPX INT CL⁷ A63F , H04Q 7/22 7/38 Online: WPI, EPODOC, PAJ</p>
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(54) Abstract Title
Mobile telephone game played via text messaging

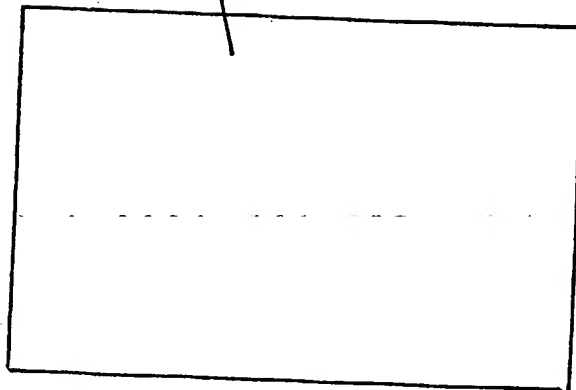
(57) A game, and apparatus for playing that game, is disclosed that is played via the text messaging facility of a portable radio-frequency communication device (e.g. a cellular radio-telephone). The text messaging facility is able to transmit and receive pre-stored messages substantially instantaneously. The game may be played between two players, or one player and a remote game playing server, text messages being exchanged between the players and/or server. Preferably the player can place a wager on the outcome of the game, which may be of the lottery; spot-the-ball; football pools; safe-cracking; quiz; snooker-theme; slot-machine; craps; roulette; blackjack or pontoon; poker; or bingo-type games. The player may have credits removed from or added to their account as a result of their wager, or be charged via a credit or debit account or through their normal bill. The player may be identified by a normally transmitted identity code, or via a personal identification code entered on the keypad of the telephone. The player is notified if he has won.

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Mobile Game Playing Method and Apparatus

The present invention relates to a method and apparatus for playing a game using a portable radio-frequency communication device, such as a cellular radio telephone.

It is known to provide a cellular radio telephone with
5 a game playing facility, wherein a user of the telephone may determine the outcome of the game by pressing selected keys on the key-pad of the telephone.

Whilst the majority of such games are provided within the telephone itself, it has recently become possible such for
10 games to be conducted between two players or between a player and a remote server via an Internet link between the two parties.

However, very few telephones presently have the facility for Internet communication and those that do are
15 typically very costly, require a user to subscribe to the service, and have interfaces which are extremely complicated and difficult to use.

Furthermore, a person conducting a game via an Internet link is unable to use his telephone to make or receive ordinary
20 telephone calls for the duration of the game.

We have now devised an arrangement which overcomes the limitations of existing mobile game playing methods and apparatus.

Thus a first aspect of the present invention consists
25 of conducting a game via a text messaging facility of a portable radio-frequency communication device, such as a cellular radio telephone. A text messaging facility in the present context meaning a facility for transmitting and receiving pre-stored messages (not necessarily textual)
30 substantially instantaneously.

The majority of cellular radio telephones, as well as various other portable radio-frequency communication devices, presently have very straightforward facilities for sending and receiving text messages, typically using the Short Messaging

Service (SMS) protocol (upon which it is envisaged that the present invention will be based). Furthermore, as those text messages are sent and received substantially instantaneously and as messages can be stored in a receiving device for an indefinite period of time, a game may be conducted in accordance with the present invention over an extended period of time, for substantially all of which the player is free to use the receiving device for other purposes.

The game may be conducted between two players or between a player and a remote game playing server i.e. an electronic processing device such as a computer.

In the latter case, the player preferably participates in the game by transmitting at least one text message from his portable radio-frequency communication device to a remote game playing server, preferably in response to at least one text message transmitted by the server.

Preferably for the or each text message transmitted by the player, the operator of the server receives from the provider of the text messaging facility a portion of the amount charged to the player for transmitting that message.

Preferably the player is provided with means by which to wager upon the outcome of the game.

The player may wager the whole or a portion of an amount held on credit by the operator of the server or by the provider of the text messaging facility (who may be one and the same). Alternatively the player may provide the operator of the server or the provider of the text messaging facility with details of a credit or debit account held by the player, from which the wager may be drawn, or the cost of the wager may be added to the player's regular bill.

In a preferred embodiment, the player's wager comprises a portion of the amount that is to be charged to the player by the provider of the text messaging facility for the sending of the or each text message during the course of play.

Where the portable radio-frequency communication device

comprises a cellular radio telephone, the player may be identified by the coded identification signal normally transmitted by the telephone and/or by a personal identification code entered by the player on the key-pad of the
5 telephone.

A winning player may receive a payout in form of a credit to an account held with the operator of the server or with the provider of the text messaging service or with a third party. The credit may be redeemed in the form of cash or as
10 prizes having a cash value, such as free games, free telephone calls, free text messages, shopping vouchers, etc.

Whilst text messages sent by players to the server would normally be charged at full rate, the text messages transmitted by the server are preferably paid for in bulk by
15 the operator of the server, at a reduced rate.

Preferably, in a game played between a player and a server, the game is initiated by the player transmitting a coded text message to the server. The coded message may, for example, comprise the name of the game that the player wishes
20 to play, such as "poker".

The server may be arranged to provide, preferably in response to a query in the form of a coded text message from a player, instructions on playing the game. The text message may, for example, comprise a word, such as the word "help". The
25 server may also or otherwise be arranged to notify a player of his entry into the game and/or invite a player to re-submit or confirm data previously submitted and/or notify a player of any resulting win, via an appropriate text message.

The portable radio-frequency communication device may
30 be adapted to communicate with the server such that the player is not required to carry the full sequence of operations normally required for the transmission and/or reception of text messages. For example, the device may be arranged to automatically form a connection with the server to transmit a
35 text message thereto and/or to automatically display text

messages received from the server in an appropriate format.

As a first example, the game in accordance with the present invention might comprise a lottery-type game, wherein the player transmits to the server a text message comprising
5 a selection of numbers, e.g. a selection of 6 different numbers from between 1 and 49 (inclusive) such as "7,12,1,27,33,49", with the player being awarded according to the extent to which his selection matches numbers selected at random by the server or by some other means.

10 As a second example, the game might comprise a spot-the-ball-type game, wherein the player transmits to the server a text message comprising the cartesian coordinates of the position at which he estimates the image of a ball might have been removed from a larger image, such as "X135Y101" (the
15 numbers 135 and 101 being the x and y coordinates respectively of the estimated position, according to a pre-determined scale), with the player being awarded according to the accuracy of his estimate in comparison with estimates submitted by other players.

20 As a third example, the game might comprise a football pools-type game, wherein the player transmits to the server a text message comprising a prediction of the outcome of at least one football game or other sporting match, such as "WWDL LDLWLDWLDWWLDLW" (where W indicates a win for a listed
25 home team, L indicates a loss for a listed home team and D indicates a draw between two teams), with the player being awarded according to the accuracy of his prediction.

As a fourth example, the game might require the player to guess the combination number of an fictitious safe by
30 transmitting his guess to the server as a text message, such as "153749", with the player being rewarded if he has guessed the correct combination number of the safe. An unsuccessful player may be notified of how many digits of the combination number he has correctly guessed.

35 As a fifth example, the game might comprise a quiz,

wherein the player transmits, as a text message, an answer to a question and is awarded if his answer is correct.

Preferably the player progresses through the game by answering a succession of questions put to him, the game ending
5 when an incorrect answer is transmitted.

The player may be required to answer the or each question within a predetermined period of time.

In a preferred embodiment, the game comprises a snooker-themed game, wherein the game proceeds in the manner
10 of a snooker game, with each question put to the player having a difficulty rating and score value corresponding to the value of a respective ball in a game of snooker.

As a sixth example, the game might comprise a slot-machine-type game, wherein, in response to a demand submitted
15 as a text message from the player to the server, the server transmits a text message to the player comprising a plurality of symbols, such as "****", "***-" or "--*", the player being awarded if those symbols, chosen at random by the server or by some other means, form a predetermined winning pattern.

20 As a seventh example, the game may comprise a craps-type game, wherein the player transmits to the server a text message comprising an indication of the type of bet he wishes to place on the outcome of a fictitious roll of a pair of dice, such as "6,6" or "3,4", the outcome of the roll being
25 determined by numbers selected at random by the server or by some other means and the player being awarded according to the rules of the game of craps.

As an eighth example, the game might comprise a roulette-type game, wherein the player transmits to the server
30 a text message comprising an indication of the type of bet he wishes to place on the outcome of a fictitious spin of a roulette wheel, such as "16", "ODD" or "BLACK", the outcome of the spin being determined by a number selected at random by the server or by some other means and the player being awarded
35 according to the rules of the game of roulette.

As a ninth example, the game might comprise a blackjack or pontoon-type game, wherein, in response to one or more text messages from the server identifying cards chosen at random from a fictitious deck of cards, the player transmits to the server at least one text message comprising an indication of how he wishes to proceed in the game, such as "STICK" or "TWIST", and is awarded according to the rules of the game of blackjack or pontoon.

As a tenth example, the game might comprise a poker-type game, wherein, in response to a text message from the server identifying five cards chosen at random from a fictitious deck of cards, the player transmits to the server a text message comprising an indication of which cards he wishes to be replaced in that hand, such as "1,2,4", and is awarded according to the rules of the game of poker.

As an eleventh example, the game might comprise a bingo-type game, wherein the server transmits one or more text messages to the player to provide the player with a plurality of numbers, e.g. "3,5,10,20", the player being awarded if at least some of those numbers, chosen at random by the server or by some other means, correspond with numbers printed on a game card held by the player.

A second aspect of the present invention consists of the use of a server to transmit data in the form of a text message in response to at least one coded text message received from a portable radio-frequency communication device such as a cellular radio telephone, wherein the operator of the server receives from the provider of the text messaging facility a portion of the amount charged for the transmission of said at least one message.

According to a third aspect of the present invention, there is provided a game playing apparatus comprising a server and at least one portable radio-frequency communication device, such as a cellular radio telephone, the device and the server being arranged to communicate with one another via a

text messaging facility, to allow a user of the or each device to participate in a game with the server.

According to a fourth aspect of the present invention, there is provided a server arranged to communicate with at
5 least one portable radio-frequency communication device, such as a cellular radio telephone, via a text messaging facility, to allow a user of the or each device to participate in a game with the server.

According to a fifth aspect of the present invention,
10 there is provided a portable radio-frequency communication device, such as a cellular radio telephone, the device being adapted to communicate with a server via a text messaging facility, to allow a user of the device to participate in a game with the server, such that the player is not required to
15 carry out the full sequence of operations normally required for the transmission and/or reception of text messages.

Embodiments of the present invention will now be described by way of examples only and with reference to the accompanying drawing, which is a schematic illustration of an
20 apparatus in accordance with the present invention.

Referring to the drawing, a game playing apparatus is shown comprising a server 2 and a portable radio-frequency communication device in the form of a cellular radio telephone 4, the two devices 2,4 being arranged to communicate with one
25 another via an SMS text messaging facility to allow a user of the telephone 4 to participate in a game with the server 2.

The telephone 4 is adapted so that a player may initiate a game by pressing an appropriate key on the key-pad of the telephone 4, as an example a key marked "blackjack". The
30 telephone 4 then transmits a corresponding coded text message to the server 2 which then responds accordingly, in the present example by transmitting a text message to the player's telephone 4 identifying a number of cards chosen at random for both the server 2 and the player.

35 The player's response to the server's message then

determines how the game is to proceed. In the blackjack example, the player may respond with a text message indicating his desire to accept his existing selection of cards or to be dealt an additional card.

5 Once the player has decide to stick with a particular selection of cards, he is then sent a message by the server 2 informing him of the server's final selection of cards and thus whether he has won or lost that particular game.

10 On each occasion that the server 2 transmits a message to the player, that message may be displayed immediately by the player's telephone 4 and/or stored in a memory of the telephone 4 to be displayed at some future time. The message may be displayed in its original text form, or the telephone 4 may be adapted to present a graphical display according to the content.

15 of the text message.

 If at any time the player requires a tip or instructions on how to play the game, he can press a key marked "help" on the telephone 4 key-pad which causes a corresponding coded text message to be transmitted to the server 2, which

20 responds accordingly.

 The game thus provided may be enhanced by allowing a player to wager upon its outcome. The player may wager the whole or a portion of an amount held on credit by the operator of the server 2 or by the provider of the text messaging

25 facility (who may be one and the same). Alternatively the player may provide the operator of the server 2 or the provider of the text messaging facility, by means of a text message, with details of a credit or debit account from which the wager is to be drawn, or the cost of the wager may be added to the

30 player's regular telephone bill.

 In a preferred charging scheme, the player's wager comprises a pre-determined portion of the amount that he is to be charged by the provider of the text messaging facility for the sending of his initial text message. This charge may

35 comprise an amount added to the player's normal telephone bill

or, for a pre-pay telephone, an amount debited from the player's available airtime.

For billing and/or payment purposes, the player's identity may be determined from the coded identification signal normally transmitted by the player's telephone 4 and/or by a personal identification code entered by the player on the keypad of his telephone 4.

A winning player may receive a payout in form of a credit to an account held with the operator of the server 2 or with the provider of the text messaging service or with a third party. Accumulated credit may be redeemed in the form of cash or as prizes having a cash value, such as free games, free telephone calls, free text messages, shopping vouchers, etc. The winning player may be sent a text message comprising a code which may, for example, be entered into an ATM machine to obtain cash or presented to at a shop, bank, post office, etc, to receive cash or a prize.

Whilst the above-described embodiments provide the user of a cellular radio telephone with the facility for playing a game against a server, it would remain in accordance with the present invention to provide two or more players with the facility for playing a game against one another via the text messaging facilities of their respective cellular radio telephones.

It is also intended that the text messaging facilities referred to herein should extend all messaging facilities (not necessarily textual) which retain the essential characteristic that pre-stored messages are transmitted and received substantially instantaneously.

Furthermore, whilst the invention is defined above in terms of electronic apparatus and processes performed by electronic apparatus, the invention also extends to programs, particularly programs on or in a carrier, adapted for operating those electronic apparatus for putting the invention into effect.

The program may be in the form of source code, object code, a code intermediate source and object code such as in a partially compiled form, or in any other form suitable for putting the invention into effect.

5 The carrier may be any entity or device capable of carrying the program. For example, the carrier may comprise a storage medium such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk. Further, the carrier may be on a
10 transmissible carrier such as an electronic, electromagnetic or optical signal which may be conveyed via electrical or optical cable or by radio or other means.

When the program is embodied in a signal which may be conveyed by a cable or other device or means, the carrier may
15 be constituted by such cable or other device or means.

Alternatively, the carrier may be an integrated circuit in which the program is embedded, the integrated circuit being adapted for putting the invention into effect.

20 The methods and apparatus thus described provide convenient and versatile means by which to provide the user of a portable radio-frequency communication device such as a cellular radio telephone with the facility for playing a game.

Claims

- 1) A game played via a text messaging facility of a portable radio-frequency communication device, said text messaging facility being a facility for transmitting and
5 receiving pre-stored messages substantially instantaneously.
- 2) A game as claimed in Claim 1, wherein said portable radio-frequency communication device comprises a cellular radio-telephone.
- 3) A game as claimed in Claim 1 or Claim 2, conducted
10 between two players
- 4) A game as claimed in Claim 1 or Claim 2, conducted between a player and a remote game playing server.
- 5) A game as claimed in Claim 4, wherein the player participates in the game by transmitting at least one text
15 message from a portable radio-frequency communication device to a remote game playing server
- 6) A game as claimed in Claim 5, wherein the or each text message is transmitted by the player in response to at least one text message transmitted by the server.
- 20 7) A game as claimed in Claim 5 or Claim 6, wherein for the or each text message transmitted by the player, the operator of the server receives from the provider of the text messaging facility a portion of the amount charged to the player for transmitting that message.
- 25 8) A game as claimed in any of Claims 4 to 7, wherein the player is provided with means by which to wager upon the outcome of the game.

- 9) A game as claimed in Claim 8, wherein the player wagers the whole or a portion of an amount held on credit by the operator of the server or by the provider of the text messaging facility.
- 5 10) A game as claimed in Claim 8, wherein the player provides the operator of the server or the provider of the text messaging facility with details of a credit or debit account held by the player, from which the wager is drawn.
- 10 11) A game as claimed in Claim 8, wherein the cost of the wager is added to the player's bill for the regular use of the portable radio-frequency communication device.
- 15 12) A game as claimed in Claim 11, wherein the wager comprises a portion of the amount that is to be charged to the player by the provider of the text messaging facility for the sending of the or each text message during the course of play.
- 13) A game as claimed in any of Claims 8 to 12 appended to Claim 2, wherein the player is identified by the coded identification signal normally transmitted by the telephone.
- 20 14) A game as claimed in any of Claims 8 to 13 appended to Claim 2, wherein the player is identified by a personal identification code entered by the player on the key-pad of the telephone.
- 25 15) A game as claimed in any of Claims 8 to 14, wherein a winning player receives a payout in form of a credit to an account held with the operator of the server or with the provider of the text messaging service or with a third party.
- 16) A game as claimed in Claim 15, wherein said credit is redeemable in the form of cash or as a prize having a cash

value.

17) A game as claimed in Claim 16, wherein said prize comprises a free game, a free telephone call, or a free text messages.

5 18) A game as claimed in any of Claims 4 to 17, wherein text messages transmitted by the server are paid for in bulk by the operator of the server, at a reduced rate.

19) A game as claimed in any of Claims 4 to 18, wherein the
10 message to the server.

20) A game as claimed in any of Claims 4 to 19, wherein the server is arranged to provide instructions on playing the game.

21) A game as claimed in any of Claims 4 to 20, wherein the
15 server is arranged to notify a player of his entry into the game and/or invite a player to re-submit or confirm data previously submitted and/or notify a player of any resulting win, via an appropriate text message.

22) A game as claimed in any of Claim 4 to 21, wherein the
20 portable radio-frequency communication device is adapted to communicate with the server such that the player is not required to carry the full sequence of operations normally required for the transmission and/or reception of text messages.

23) A game as claimed in Claim 22, wherein the portable
25 radio-frequency communication device is arranged to automatically form a connection with the server to transmit a text message thereto and/or to automatically display text messages received from the server in an appropriate format.

24) A game as claimed in any of Claims 4 to 23, comprising a lottery-type game, wherein the player transmits to the server a text message comprising a selection of numbers, with the player being awarded according to the extent to which his selection matches numbers selected at random by the server or by some other means.

25) A game as claimed in any of Claims 4 to 23, comprising a spot-the-ball-type game, wherein the player transmits to the server a text message comprising the cartesian coordinates of the position at which he estimates the image of a ball might have been removed from a larger image, with the player being awarded according to the accuracy of his estimate in comparison with estimates submitted by other players.

26) A game as claimed in any of Claims 4 to 23, comprising a football pools-type game, wherein the player transmits to the server a text message comprising a prediction of the outcome of at least one football game or other sporting match, with the player being awarded according to the accuracy of his prediction.

27) A game as claimed in any of Claims 4 to 23, wherein the player is required to guess the combination number of an fictitious safe by transmitting his guess to the server as a text message, with the player being rewarded if he has guessed the correct combination number of the safe.

28) A game as claimed in Claim 27, wherein an unsuccessful player is notified of how many digits of the combination number he has correctly or incorrectly guessed.

29) A game as claimed in any of Claims 4 to 23, comprising a quiz, wherein the player transmits, as a text message, an answer to a question and is awarded if his answer is correct.

30) A game as claimed in Claim 29, wherein the player progresses through the game by answering a succession of questions put to him, the game ending when an incorrect answer is transmitted.

5 31) A game as claimed in Claim 29 or Claim 30, wherein the player is required to answer the or each question within a predetermined period of time.

32) A game as claimed in any of Claims 29 to 31, comprising a snooker-themed game, wherein the game proceeds in the manner
10 of a snooker game, with each question put to the player having a difficulty rating and score value corresponding to the value of a respective ball in a game of snooker.

33) A game as claimed in any of Claims 4 to 23, comprising a slot-machine-type game, wherein, in response to a demand
15 submitted as a text message from the player to the server, the server transmits a text message to the player comprising a plurality of symbols, the player being awarded if those symbols, chosen at random by the server or by some other means, form a predetermined winning pattern.

20 34) A game as claimed in any of Claims 4 to 23, comprising a craps-type game, wherein the player transmits to the server a text message comprising an indication of the type of bet he wishes to place on the outcome of a fictitious roll of a pair
of dice, the outcome of the roll being determined by numbers
25 selected at random by the server or by some other means and the player being awarded according to the rules of the game of craps.

35) A game as claimed in any of Claims 4 to 23, comprising a roulette-type game, wherein the player transmits to the
30 server a text message comprising an indication of the type of bet he wishes to place on the outcome of a fictitious spin of

a roulette wheel, the outcome of the spin being determined by a number selected at random by the server or by some other means and the player being awarded according to the rules of the game of roulette.

5 36) A game as claimed in any of Claims 4 to 23, comprising a blackjack or pontoon-type game, wherein, in response to one or more text messages from the server identifying cards chosen at random from a fictitious deck of cards, the player transmits to the server at least one text message comprising an
10 indication of how he wishes to proceed in the game, and is awarded according to the rules of the game of blackjack or pontoon.

37) A game as claimed in any of Claims 4 to 23, comprising a poker-type game, wherein, in response to a text message from
15 the server identifying five cards chosen at random from a fictitious deck of cards, the player transmits to the server a text message comprising an indication of which cards he wishes to be replaced in that hand, and is awarded according to the rules of the game of poker.

20 38) A game as claimed in any of Claims 4 to 23, comprising comprise a bingo-type game, wherein the server transmits one or more text messages to the player to provide the player with a plurality of numbers, the player being awarded if at least some of those numbers, chosen at random by the server or by
25 some other means, correspond with numbers printed on a game card held by the player.

39) The use of a server to transmit data in the form of a text message in response to at least one coded text message received from a portable radio-frequency communication device
30 such as a cellular radio telephone, wherein the operator of the server receives from the provider of the text messaging

facility a portion of the amount charged for the transmission of said at least one message.

40) A game playing apparatus comprising a server and at least one portable radio-frequency communication device the
5 device and the server being arranged to communicate with one another via a text messaging facility, to allow a user of the or each device to participate in a game with the server.

41) A game playing apparatus as claimed in Claim 40, wherein said portable radio-frequency communication device
10 comprises a cellular radio-telephone.

42) A server arranged to communicate with at least one portable radio-frequency communication device via a text messaging facility, to allow a user of the or each device to participate in a game with the server.

15 43) A server as claimed in Claim 42, wherein said portable radio-frequency communication device comprises a cellular radio-telephone.

44) A portable radio-frequency communication device adapted to communicate with a server via a text messaging facility, to
20 allow a user of the device to participate in a game with the server, such that the player is not required to carry out the full sequence of operations normally required for the transmission and/or reception of text messages.

45) A portable radio-frequency communication device as
25 claimed in Claim 44, comprising a cellular radio-telephone.

46) Electronic apparatus adapted to facilitate the playing of a game as claimed in any of Claims 1 to 38.

47) Software for adapting electronic apparatus to facilitate the playing of a game as claimed in any of Claims 1 to 38.



INVESTOR IN PEOPLE

Application No: GB 0113169.7
Claims searched: 1 to 47

19

Examiner: Andrew Hole
Date of search: 4 July 2002

Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.T): H4L (LDPB, LDPC, LDPD, LDPPX)

Int Cl (Ed.7): H04Q 7/22, 7/38

Other: Online: WPI, EPODOC, PAJ, TXTE

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	EP 1174818 A1 (ALCATEL) See whole of US 2002/0049074 A1, which is an English language equivalent of this document.	1 to 13, 15, 16, 19 to 24, 26, 29, 40 to 45.
X	EP 1086732 A1 (NOKIA) See Figures and paragraphs 11 to 29, and 75.	1 to 6, 19 to 23, 40 to 45.
A	WO 02/25603 A1 (OY MOOM SOLUTIONS) See page 5, lines 2 to 16.	15 to 17.
X	US 5999808 (LADUE) See whole document.	1 to 8, 11, 13, 19 to 23, 35 to 37, 39 to 45.

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